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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/786,658	02/25/2004	James B. Roane	24310-00005	2856

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EXAMINER

WERNER, JONATHAN S

ART UNIT	PAPER NUMBER
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3732

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	03/05/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/786,658

Applicant(s)

ROANE, JAMES B.

Examiner

Jonathan Werner

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 December 2006.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,2,4-7,12,13,16-18,21 and 22 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-2,4-7,12-13,16-18,21-22 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 07 June 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

1. This action is in response to Applicant's amendment received 12/8/06.

Continued Examination Under 37 CFR 1.114

2. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 12/8/06 has been entered.

Drawings

3. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Though Applicant has appropriately canceled claims 10 and 11 – the subject matter of which was previously directed to flutes and cutting edges on the shaft and the shaft having an increasing diameter – the drawings remain objected to because the same subject matter still exists in currently presented claims 21 and 22. Said subject matter must be shown in the drawings or the feature(s) canceled from the claim(s). No new matter should be entered.

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4. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Objections

5. Claims 2 and 13 are objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. Currently claims 2 and 13 repeat the subject matter as described in currently amended claims 1 and 12.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1-2, 5, 7, 12-13, 16 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hagemann et al (US 2003/0017434) in view of Malmin (US 4,019,254) further in view of Roane (US 4,443,193). As to claims 1-2, Hagemann discloses a set of progressively smaller sized instruments for performing root canal therapy (i.e. Figure 1), wherein the instruments comprise an elongated shaft (1); a continuously tapered working length (3) formed on the shaft adjacent to its distal end, wherein said working length has a diameter at its upper end that is greater than the diameter of the shaft (i.e. Figure 2) and can have a length less than about 3 mm and wherein multiple cutting edges are formed by multiple flutes thereon (i.e. Figure 4). Hagemann fails to disclose that the cutting edges and flutes are parallel to the axis of each instrument whereby both clockwise and counter-clockwise rotation of the instrument is thus permitted. Malmin teaches an endodontic instrument in which multiple flutes form cutting edges along the working length and wherein said cutting edges and flutes are parallel to the longitudinal axis of each instrument (i.e. Figure 7) so as to allow either clockwise or counter-clockwise rotation of the instrument while in use. Therefore it would have been obvious to one having ordinary skill in the art at the time of Applicant's invention to form said parallel flutes and cutting edges as described in

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order to permit any material that is milled off of the tooth to be aspirated out along the length of the shaft as taught by Malmin (column 4, lines 10-19). Malmin additionally shows that the cutting edges on the working length extend from the tip of said working length to its upper end (i.e. Figure 7). Still, neither Hagemann nor Malmin disclose the tip of each working length is bi-conical. Roane teaches such a bi-conical tip (78/82) on a working length of an endodontic instrument (Figure 4). Therefore, it would have been obvious to one having ordinary skill in the art at the time of Applicant's invention to include said tip in order to guide the cutting portion of the instrument through the root canal so that lateral movement of the instrument is reduced when cutting through a curved portion of said canal as taught by Roane (see Abstract). In regard to claims 5, 7, 16 and 18, Malmin shows each instrument can have three cutting edges on the working length formed by three flutes thereon (115, Figure 6); and the cross-sectional shape of the working length can be triangular with concave sides, triangular, square or polygonal (see Figure 6). As to claims 12-13, Hagemann further discloses that it is known in the art to use the set of three tools as disclosed in a "crown-down" procedure in which a tool of larger diameter is used first and then following with an instrument having a decreasing diameter to allow for a more extensive far reaching processing of the root canal (paragraph 0002).

7. Claims 4, 6 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hagemann in view of Malmin further in view of Roane and further in view of Buchanan (US 5,921,775). As to claim 4, Hagemann, Malmin and Roane fail to

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disclose that a larger instrument of the set has a working length taper of 0.1 (mm/mm) and the smallest one of the set has a working length taper of 0.05 (mm/mm). Buchanan discloses such a set of endodontic instruments with working length tapers (column 16, lines 33-35). Therefore, it would have been obvious to one having ordinary skill in the art at the time of Applicant's invention to make the larger instrument of the set have a working length taper of 0.1 (mm/mm) and the smallest one of the set have a working length taper of 0.05 (mm/mm) in order to ensure a proper fit through the apical end of a root canal as taught by Buchanan. As to claims 6 and 17, Figures 15E(1-3) show the instrument has six cutting edges on the working length formed by three flutes thereon.

8. Claims 21-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hagemann in view of Malmin further in view of Roane and further in view of Bleiweiss (US 2003/0013067). Hagemann, Malmin and Roane fail to show the shaft portion of each instrument includes flutes and cutting edges or has an increasing diameter. Bleiweiss, however, teaches a set of endodontic instruments in which the shaft portion of each instrument includes flutes and cutting edges (14a) and has an increasing diameter shaft (i.e. 74, Figure 1). Therefore, it would have been obvious to one having ordinary skill in the art at the time of Applicant's invention to make the shaft of each instrument between the proximal end thereof and the short enlarged continuously tapered working length thereof include flutes and cutting edges and the shaft of each instrument have an increasing diameter from the working length to the proximal end in

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order to better engage a root canal when the root canal is curved as taught by Bleiweiss.

Response to Arguments

9. Applicant's arguments with respect to the claims have been considered but are moot in view of the new ground(s) of rejection.

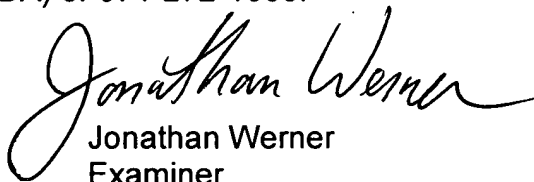
Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jonathan Werner whose telephone number is (571) 272-2767. The examiner can normally be reached on Monday-Friday.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cris Rodriguez can be reached on (571) 272-4964. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


Jonathan Werner
Examiner

2/27/07


MELBA N. BUMGARNER
PRIMARY EXAMINER